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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,483	12/22/2003	Ian Macfarlane	2993-389US RM/JR/as	2075
32292	7590	08/23/2005		
OGILVY RENAULT LLP (PWC) 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A 2Y3 CANADA			EXAMINER KIM, TAE JUN	
			ART UNIT 3746	PAPER NUMBER

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/740,483	MACFARLANE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ted Kim	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>08/04/05, 04/11/05</u>  | 6) <input type="checkbox"/> Other: ____                                     |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 51, 41, 55, 53, 45, 47, 30, 43, 49, 57, 61, 72, 70. Due to the nature and number of omissions, applicant is required to carefully review the specification and drawings for consistency. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 14-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

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was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. On lines 3-6, "each of said shafts being respectively rotatably supported by **at least two outer shaft bearings and two inner shaft bearings**" is not supported by the specification. Each shaft is not taught as having both outer and inner shaft bearings. Rather the outer shaft has outer bearings and the inner shaft has inner bearings.

4. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant's specification is negligent by omitting the drawing numbers in the drawings. Due to the nature and number of the omissions, the disclosure fails to comply with the adequate written description requirement in which one of ordinary skill in the art would be taught how to make and use the invention.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 14, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hibner et al (5,110,257). Hibner et al teach a gas turbine engine comprising at least outer 40 and

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inner 34 concentric shafts, at least said outer shaft having a compressor 36 and turbine 24 mounted thereto, each of said shafts being respectively rotatably supported by at least two outer shaft bearings 46 and two inner shaft bearings 46, the outer shaft bearings 46 being spaced apart from a turbine end of the outer concentric shaft such that the turbine is disposed between said bearing and said end, such that the outer concentric shaft is cantilevered from the outer shaft bearings 46; a free turbine gas engine comprising at least outer and inner concentric shafts rotatably supported by a plurality of shaft bearings, the outer shaft being a free turbine shaft and having a turbine and compressor mounted thereto, the outer shaft bearings 46 near 44 are disposed forward of the compressor such that the bearings are isolated from the turbine

7. Claims 14, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ainsworth (3,830,058). Ainsworth teaches a gas turbine engine comprising at least outer and inner concentric shafts, at least said outer shaft having a compressor 36 and turbine 54 mounted thereto, each of said shafts being respectively rotatably supported by at least two outer shaft bearings 42, 40 and two inner shaft bearings 64, 62, the outer shaft bearings being spaced apart from a turbine end of the outer concentric shaft such that the turbine 54 is disposed between said bearing 56 and said end, such that the outer concentric shaft is cantilevered from the outer shaft bearings; a free turbine gas engine comprising at least outer and inner concentric shafts rotatably supported by a plurality of shaft bearings, the outer shaft being a free turbine shaft and having a turbine and

compressor mounted thereto, the outer shaft bearings 42 disposed forward of the compressor such that the bearings 42 are isolated from the turbine.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 14-17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiscock et al (2,978,869) in view of Leibach (2,924,937) and Hibner et al (5,110,257). Hiscock et al teach a gas turbine engine comprising at least outer 24 and inner 25 concentric shafts, at least said outer shaft having a compressor 23 and turbine 25 mounted thereto. Hiscock et al do not teach the outer shaft bearings being spaced apart from a turbine end of the outer concentric shaft such that the turbine is disposed between said bearing and said end, such that the outer concentric shaft is cantilevered from the outer shaft bearings and the outer bearings are isolated from the turbine. Leibach teach a shaft where the bearings 1 are in front of the compressor 3 to cantilever the shaft from the bearings 1 and isolated from the turbine is a well known configuration in the art. It would have been obvious to one of ordinary skill in the art to employ the bearing arrangement taught by Leibach as a well known arrangement for bearings used in the art. It would have been obvious to place them in the same single lubrication cavity as used by

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the gearbox, sump 30 (see col. 2, lines 59+) as being forward of the compressor. Hiscock et al do not show the inner shaft having at least two bearings but this would appear to be inherent. Hibner et al teach it is old and well known in the gas turbine art to employ two inner bearings 46 for the inner shaft in order to support the shaft. It would have been obvious to one of ordinary skill in the art to employ two inner bearings for the inner shaft to support the shaft. It would have been obvious to one of ordinary skill in the art to place at least one of the inner shaft bearings within the same single oil cavity used by the gearbox, as being positioned in an analogous location in Hibner.

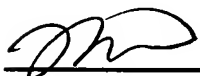
*Contact Information*

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 571-273-8300 for Regular faxes and 571-273-8300 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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